

The Crystal Structure of Tobermorite (Tobermorites) SOV/20-123-1-44/56

form-wise to an 11 \AA hydrate: it changes into oriented fibers of wollastonite, but its basic cleavage is not (001) but (100)-like and it cannot be changed to a 14 \AA hydrate even after being ground to a fine powder and treated with water for many hours. Megaw and Kelsey (Ref 3) presented a structure scheme which agrees satisfactorily with the diffraction picture of an 11 \AA hydrate. They work from the assumption that of most importance are the wollastonite chains, $(\text{SiO}_3)_n$, which are characteristic of the product of their thermal reactions. The chains are responsible for the fiber-like form of the tobermorite: the sheet-like structure is a result of condensation of the amphibole chains to talc nets. The silicon-oxygen nets are (according to Ref 3) similar to corrugated cardboard. The authors develop the concrete structure of tobermorite sheets from these schemes. The authors' recent deciphering of the experiment which yielded okenite (Ref 6) among other things (Ref 7) shows that if the disintegration products of Ca-hydrosilicates at $\sim 750^\circ$ are wollastonite fibers with simple chains, $(\text{Si}_3\text{O}_9)_n =$

Card 2/4

3(8)

AUTHORS: Mamedov, Kh. S., Belov, N. V., SOV/20-123-1-44/56
 Member, Academy of Sciences, USSR

TITLE: The Crystal Structure of Tobermorite (Tobermorites)
 (O kristallicheskoy strukture tobermorita (tobermoritov))

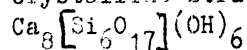
PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol 123, Nr 1, pp 163 -
 165 (USSR)

ABSTRACT: Tobermorites are fibrous and at the same time platy, mica-
 like Ca-hydrosilicates. They take on considerable amounts of
 water in the same manner as montmorillonite and vermiculite,
 remaining monocrystalline. There is only a corresponding
 enlargement of the parameter of the elementary cell. The
 water content in tobermorites increases in sharp, jump-like
 increments, a characteristic which distinguishes them from
 the above-mentioned clay minerals. Each increment has been
 given a different name. All tobermorites are characterized
 by rhombic symmetry (Ref 1). Their constants and properties
 are described. If the various amounts of inter-layer water
 are left out of consideration, the composition of all tober-
 morites is the same. One "tobermorite from Lokh-Eynort"
 (Ref 2) differs from all others. Its parameter corresponds

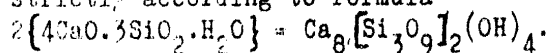
Card 1/4

Crystalline Structure of Foshagite

SOV/20-121-5-37/50



of foshagite entirely of wollastonite chains (Fig 4), i.e. strictly according to formula



Then the reaction taking place at 750° remains quite unintelligible, so far as a simple separation of water from the Ca-minerals (Ref 5) does not require any temperatures above 500° .

There are 4 figures and 11 references, 6 of which are Soviet.

ASSOCIATION: Institut khimii Akademii nauk AzerbSSR (Institute of Chemistry, AS Azerbaydzhan-SSR)
Institut kristallografii Akademii nauk SSSR (Institute of Crystallography, AS USSR)

SUBMITTED: May 7, 1958

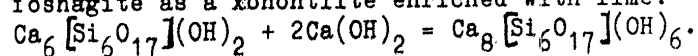
Card 3/3

Crystalline Structure of Foshagite
 $\text{Ca}_8[\text{Si}_6\text{O}_{17}](\text{OH})_6$

SOV/20-121-5-37/50

above, foshagite, heated up to 800° , after dehydration transforms into β -wollastonite, the fibers of which are orientated parallel to those of the initial foshagite. The above mentioned period and semiperiod are equal to the two latter and to the previously mentioned minerals. The parameters of the monoclinic cell of foshagite (Ref 5) are given. The basic cleavage - at (001) - and a less marked one - at (100) were determined by means of an electron microscope (Ref 5). The authors discuss the views developed by Gard and Taylor (Ref 5). Contrary to this reference, the authors have given a practically more convenient description of β -wollastonite (Ref 7); there are two superfluous $\text{Ca}(\text{OH})_2$ in it,

compared with wollastonite. The authors subsequently denote foshagite as a xenonite enriched with lime:



Figures 1 and 2 show a structural scheme of foshagite and a frontal projection; figure 3 shows a plan in "Pauling's" (paulingovskiye) cylinders. It is easy to build a model of

Card 2/3

AUTHORS: Mamedov, Kh. S., Belov, N. V., SQV/20-121-5-37/50
Member, Academy of Sciences, USSR

TITLE: Crystalline Structure of Foshagite $\text{Ca}_8[\text{Si}_6\text{O}_{17}](\text{OH})_6$
(Kristallicheskaya struktura foshagita $\text{Ca}_8[\text{Si}_6\text{O}_{17}](\text{OH})_6$)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol. 121, Nr 5,
pp. 901-903 (USSR)

ABSTRACT: The authors introductorily discuss the previous versions of the formulae of this mineral belonging to the fibrous hydrated wollastonites (Refs 1 - 5). It is a typical fibrillar mineral. Besides powder diagrams, also X-ray diagrams of the rotation about the fiber-axis can be obtained from it. The corresponding lattice period amounts to $7,35 \text{ \AA}$, the pseudo-semiperiod $3,68 \text{ \AA}$, however, is distinctly marked which is characteristic of several Ca-silicates (Refs 1,2). Foshagite is similar to xonotlite with respect to the temperature at which the main quantity of water is removed (650 to 750° according to reference 5). Similar to the Ca-minerals mentioned

Card 1/3

The Crystalline Structure of Micaceous Calcium Hydro- SOV/20-121-4-40/54
silicates: Okenite, Nekoite, Truscottite, Gyrolite. A New Silicon-Oxygen
Radical $(\text{Si}_6\text{O}_{15})_\infty$

ASSOCIATION: Institut khimii Akademii nauk AzerbSSR (Chemical Institute,
AS Azerbaydzhan SSSR) Institut kristallografii Akademii nauk
SSSR (Institute of Crystallography, AS USSR)

SUBMITTED: April 29, 1958

Card 4/4

The Crystalline Structure of Micaceous Calcium Hydro- SOV/20-121-4-40/54
 silicates: Okenite, Nekoite, Truscottite, Gyrolite. A New Silicon-Oxygen
 Radical $(Si_6O_{15})_{\infty}$

are equal this holds also true for the two modifications of the conjugate chain of Si-tetrahedrons. Thus such a combination of the near xonolyte bands is possible as it is shown on figure 1 v. The conjugating element of symmetry is the slip plane which is most natural in microcrystallography. In the chain an exchange takes place between 8-membered rings with the double number of 5-membered rings. When heated up to 800° okenite decomposes to wollastonite and a non-orientated cristobalite which process is accompanied by a loss of H_2O . The formation of an oriented wollastonite due to dehydration obviously points to the fact that the decomposing radical is a condensate of the wollastonite chain (Ref 6). The final crystallochemical okenite formula is the following: $3/Ca_3Si_6O_{15} \cdot 2H_2O \cdot 0.4H_2O/$. Also the thermogram with 2 clear endothermal maxima corresponds to the separation of water into constitution- and zeolite water. There are 4 figures, 1 table, and 10 references, 5 of which are Soviet.

Card 3/4

The Crystalline Structure of Micaceous Calcium Hydro- SOV/20-121-4-40/54
 silicates: Okenite, Nekoite, Truscottite, Gyrolite. A New Silicon-Oxygen
 Radical $(\text{Si}_6\text{O}_{15})_\infty$

discovered in wollastonite (Ref 1) (3 Si-tetrahedrons in the member compared with only two in pyroxenes) yield in bands with a different formula $(\text{Si}_6\text{O}_{17})_\infty$ as a result of duplication, and with 8-membered chains (xonolite bands (Ref 2)) which polymerize to lattices with a very much changed geometry $(\text{Si}_2\text{O}_5)_\infty$. All these misunderstandings may be eliminated if it is taken into account that the main feature of wollastonite xonolite and of related Ca-minerals are infinite columns of Ca-octahedrons which are added in such a way that the O — O-edge of each of them is directly continued by the edge of the next (Fig 1 b). Such an edge is much longer than that of a Si-tetrahedron but is less than its double height. Thanks to the inclination of the tetrahedrons on one edge of a Ca-octahedron a pair of Si-tetrahedrons is attached whereas to a following Ca-tetrahedron corresponds an edge of a Si-tetrahedron + "saved component" which was formed by the previous Si-tetrahedron pair thanks to the inclination. Since the edges of both Ca-tetrahedrons

Card 2/4

AUTHORS: Mamedov, Kh. S., Belov, N. V., Member, SOV/20-121-4-40/54
Academy of Sciences, USSR

TITLE: The Crystalline Structure of Micaceous Calcium Hydrosilicates:
Okenite, Nekoite, Truscottite, Gyrolite (Kristallicheskaya
struktura slyudopodobnykh Ca-gidrosilikatov: okenita, nekoita,
truskottita, girolita) A New Silicon-Oxygen Radical $(\text{Si}_6\text{O}_{15})_\infty$
(Novyy kremnekislородnyy radikal $(\text{Si}_6\text{O}_{15})_\infty$)

PERIODICAL: Doklady Akademii nauk SSSR, 1958, Vol. 121, Nr 4,
pp. 720 - 723 (USSR)

ABSTRACT: It is well known that from silicon-oxygen chains of pyroxene
 $(\text{SiO}_3)_\infty$ amphibole bands are formed as a consequence of
their duplication (with respect to the plane of symmetry).
They are composed of members of 6 subdivisions each and may be
polymerized to 2-dimensional lattices $(\text{Si}_2\text{O}_5)_\infty$. These
lattices have only 6-membered loops which are a characteristic
feature of the very comprehensive class of pseudo-hexagonal
strata of minerals: Mica, loams, chlorites. The pyroxenoid
chains $(\text{SiO}_3)_\infty$ with a different geometry which the author

Card 1/4

MAMEDOV, Kh.S.

Classification of silicates. Dokl.AN Azerb.SSR 15 no.8:685-688
'58. (MIRA 13:1)

1. Institut khimii AN AzerSSR.
(Silicates)

MAMEDOV, Kh.S.

The crystalline structure of rhodonite. Dokl. AN Azerb. SSR 14
no.6:445-450 '58. (MIRA 11:7)

1. Institut khimii AN AzerSSR. Predstavleno akademikom AN AzerSSR
M.-A. Kashkayem.
(Rhodonite)

ILLEGIBLE

ILLEGIBLE

ILLEGIBLE

Abstract : which are located parallel to the columns of the octahedra and the prisms. The Si-O distances in the tetrahedra are 1.54 -- 1.63 kX. The length of the ribs of the Si-tetrahedra are 2.52 -- 2.60 kX. The Ca-O distances in the octahedra and in the prisms fluctuate in the range 2.34 -- 2.60 kX. The structural features of Xonotlite explain well the fibrous nature and both cleavages of the minerals. The defects and faults in the structure of Xonotlite and of other minerals of the Wollastonite group are examined.

Card : 3/3

USSR / Structural Crystallography.

E-3

Abs Jour : Ref Zhur - Fizika, No 4, 1957, No 9229

Abstract : allowance of the analogy between Xonotlite and cuspidine and telleite, a model of the structure was found and was subjected to consecutive refinement by the arbitrary projection method. The base of the structure of the Xonotlite are Ca-octahedra, connected together by the oppositely-placed ribs, and extending along the b axis. The octahedra contain 1/3 of the atoms of calcium, while the remaining atoms of calcium are located in the trigonal prisms, connected along the ribs into columns placed on both sides of the columns of the Ca-octahedra along the second-order axis. Columns of the octahedra and the prisms combine to form layers parallel to the (001) plane. The structure of the Xonotlite displays a characteristic new type of silicon-oxygen radical, namely a chain (ribbon) of composition $[Si_6O_{11}]_{\infty}$.

Card : 2/3

Mamedov, Kh.S.

USSR / Structural Crystallography.

E-3

Abs Jour : Ref Zhur - Fizika, No 4, 1957, No 9229

Author : Mamedov, Kh. S., Belov, N.V.

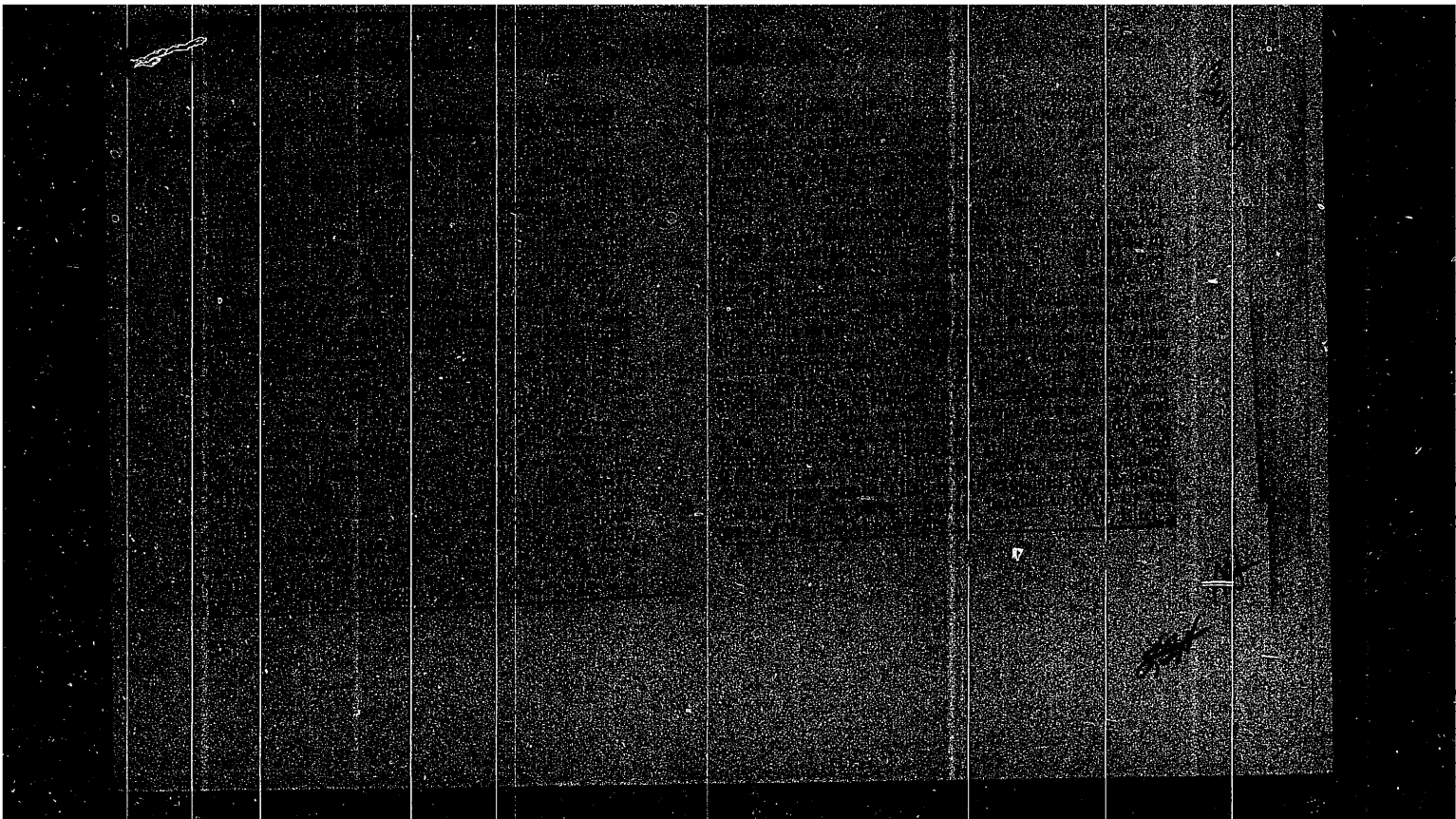
Title : Crystalline Structure of Minerals of the Wollastonite Group.
I. Structure of Xonotlite.

Orig Pub : Zap. Vses. mineralog. o-va, 1956, 85, No 1, 13-38

Abstract : Results of X-ray diffraction investigations are reported for the crystalline structure of a mineral of the Wollastonite group, namely Xonotlite $6 \text{ CaSiO}_3 \cdot \text{H}_2\text{O}$. Only the Weissenberg method and rotation were used and the radiation was $\text{Mo} \approx \text{K}_\alpha$. Owing to the fibrous structure of the mineral, X-ray diffraction patterns were obtained only when rotating about the b axis of the needles. The lattice periods were a 16.50, b 7.32 (with a pseudo-period b 3.66) and c 7.03 kX, $\beta 90^\circ$, $Z = 4$, and Fedorov group $P2_1/a$. The signs of the F_{h0l} amplitudes were determined with the aid of the Harper and Casper inequalities and the Zachariasen statistical equation. On the basis of the projection of the electron density $\rho(xz)$, and also with

Card : 1/3

APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001032000014-6



APPROVED FOR RELEASE: 06/23/11: CIA-RDP86-00513R001032000014-6

MAMEDOV, KH. S.

MAMEDOV, KH. S.--"Crystalline Structure of Xonotlite." (Dissertation for Degrees *
in Science and Engineering Defended at USSR Higher Educational Institutions) Acad
Sci USSR, Inst of Crystallography, Moscow, 1955 * Geologicomineralogical Sciences

SO: Knizhnaya Letopis' No. 37, 10 September 1955

L 27206-66

ACC NR: AP6011571

0

n-octane) the quinoline phosphorescence spectrum experiences changes in the widths of the doublets and in the relative intensity of the doublets and of the background. If it is assumed that the doublets of the quinoline in the paraffin at 77K are the results of two spatially-separated 'different' quinoline molecules, then the experimental results show that the environments of these molecules are not identical. The different degrees of smearing of the doublet components in such a case indicates an appreciable dependence of the probability of phononless electronic transitions on the method of intrusion of the quinoline molecule into the structure of the solvent. The appearance of the broad band simultaneously with the lines and their behavior on going over to different solvents is in good qualitative agreement with the theory developed for this phenomenon by K. K. Rebane and V. V. Khizhnyakov (Opt. i spektr. v. 14, 362, 1963). Orig. art. has: 2 figures

SUB CODE: 20// SUBM DATE: 12Jul65/ ORIG REF: 006/ OTH REF: 001

Card

2/2 CC

L 27206-66 EWP(j)/EWI(m) RM
ACC NR: AP6011571 SOURCE CODE: UR/0051/66/020/003/0505/0507

AUTHORS: Mamedov, Kh. I.; Laypanov, R. Z.

28
B

ONG: none

TITLE: Concerning the appearance of lines and a background in the quasi-line spectrum of phosphorescence in quinoline and paraffins at 77K

SOURCE: Optika i spektroskopiya, v. 20, no. 3, 1966, 505-507

TOPIC TAGS: line spectrum, continuous spectrum, phosphorescence, naphthalene, organic solvent, optic transition, *petroleum product*

ABSTRACT: This is a continuation of earlier work (Izv. AN SSSR ser. fiz. v. 27, 605, 1963) where attention was called to the fact that each individual band in the phosphorescence spectra of the homologs of naphthalene in paraffins at 77K consists of a clear cut line against the background of the band itself. The present article reports some experimental facts observed in the investigation of the quasi-line spectra when the solvent-base (paraffin) is varied. In the case of quinoline in pentane at 77K, the spectrum consists of well resolved narrow doublets against the background of the electron-vibrational bands of width of the order of 100 cm^{-1} . In the case of other solvents (n-hexane, n-heptane,

Card

1/2

UDC: 535.373

LEVSHIN, V.L.; MAMEDOV, Kh.I.

Fluorescence and phosphorescence spectra of α - and β -methyl naphthalenes in normal and isoparaffin solvents at 77°K. Izv. AN SSSR Ser. fiz. 27 no.5:606-608 My '63. (MIRA 16:6)

1. Fizicheskiy fakul'tet Moskovskogo gosudarstvennogo universiteta imeni M.V. Lomonosova i Institut fiziki AN Azerbaydzhanskoy SSR.
(Naphthalene—Spectra)

L 39053-66

ACC NR: AP6017062

interval; crystallization increased as temperature increased; 2) the presence of quasi-crystalline areas leads to the formation of polycrystalline hexagonal selenium; 3) the bromine admixture breaks bonds present in a selenium sample; and 4) no complete crystallization of selenium can be, as yet, achieved, and the polycrystalline selenium can be visualized as a two-phase system, comprising crystalline grains and intergranular interlayers. Orig. art. has: 2 figures and a few formulas.

SUB CODE: 20/ SUBM DATE: 10Mar65/ ORIG REF: 003/ OTH REF: 003

Card 2/2 *MLP*

I 39053-66 EWT(m)/T/EWP(t)/ETI IJP(c) RDW/JD

ACC NR: AP6017062

SOURCE CODE: UR/0233/65/000/004/0117/0122

AUTHOR: Mamedov, K. P.; Nuriyeva, Z. D.; Gadzhiyeva, E. A.

ORG: none

TITLE: The effect of bromine impurities on the kinetics of selenium crystallization

SOURCE: AN AzerbSSR. Izvestiya. Seriya fiziko-tekhnicheskikh i matematicheskikh nauk, no. 4, 1965, 117-122

TOPIC TAGS: selenium compound, crystal impurity, crystallization, bromine

ABSTRACT: Kinetic processes of the transformation of amorphous selenium into the crystalline phase were investigated using a method developed by Mamedov and Nuriyeva (1964). Samples of selenium containing 0.0025, 0.005, 0.0075, 0.01, 0.03, 0.05, 0.07, and 0.1% wt of bromine were obtained by mixing and melting selenium (99.992% pure) with various amounts of selenium containing 2.66% of bromine. The samples were pulverized and precipitated on an aluminum strip and x-rayed under constant temperatures of 130° to 190°C. The energy of crystallization was evaluated by assuming that $\lg dI/dt$ is a function of $1/T$ and $dI/dt = k dn/dt$, where dI/dt is the change in the intensity of crystallization with respect to time, dn/dt is the speed of crystal formation and k is the constant, and T is the energy of crystallization. The data show that 1) at temperatures above 130°C, the crystallization takes place during a 2-10 minute

Card 1/2

MAMEDOV, K.P.; SULEYMANOV, Z.I.; ZEYNALOV, V.Z.

Thermographic study of the process of selenium crystallization
by means of a multipoint electron potentiometer. Azerb.khim.zhur.
no.4:84-86 '65. (MIRA 18:12)

1. Institut fiziki AN AzSSR. Submitted March 23, 1964.

MAMEDOV, K.P.; NURIYEVA, Z.D.

X-ray diffraction study of the kinetics of selenium
crystallization. Kristallografiia 9 no.2:271-273 Mr.-Ap'64.
(MIRA 17:5)

1. Institut fiziki AN Azerbaydzhanskoy SSR.

MAMEDOV, K.P.; MEKHTIYEV, K.M.

X-ray diffraction study to determine the thickness of amorphous coatings
on crystalline backings. Trudy Inst. fiz. AN Azerb. SSR 11:25-30 '63,
(MIRA 16:4)

(X-ray diffraction examination) (Solid film—Measurement)


MAMEDOV, K. P.; NURIYEVA, Z. D.

Crystallization and variation in the electric resistance of
a selenium film on an Al surface. Izv. AN Azerb. SSR. Ser.
fiz.-mat. i tekhn. nauk no.2:47-56 '62. (MIRA 15:10)

(Selenium crystals--Electric properties)
(Aluminum)

X-ray diffraction study ...

S/058/61/000/011/014/025
A058/A101

observed in roentgenograms are the result of anisotropy of the atomic scattering factor of Si. There are 19 references. 

[Abstracter's note: Complete translation]

Card 2/2

S/058/61/000/011/014/025
A058/A101

AUTHOR: Mamedov, K.P.

TITLE: X-ray diffraction study of the character of the atomic bonds in diamond-type crystals

PERIODICAL: Referativnyy zhurnal. Fizika, no. 11, 1961, 189, abstract 11E22
(Izv. AN AzerbSSR. Ser. fiz.-matem i tekhn. n., 1960, no. 6, 105-115, Azerb. summary)

TEXT: The author discusses critically the two principal X-ray structural methods of determining the character of atomic bonds in crystals: 1) the method of summation of the electron-density Fourier series (including difference series) and 2) the method of comparison of theoretical and experimental reflection intensities. The author gives preference to the second method as being the method which enables one to establish the presence of anisotropy of the atomic scattering factor and, on this basis, to determine with greater accuracy the deformation of the electron cloud of an atom in a crystal. Si crystals were studied experimentally. It was demonstrated that the forbidden (222) and (622) reflections

Card 1/2

X-Ray Diffractometric Determination of the Thickness
of Thin Coats on Metals

S/032/60/026/04/13/046
B010/B006

for the measurement of reflected X-ray intensities may be applied. Measuring results obtained are given (Table). There are 1 figure, 1 table, and 2 Soviet references.

ASSOCIATION: Institut fiziki Akademii nauk Azerb. SSR (Institute of Physics of
the Academy of Sciences of the Azerbaydzhanskaya SSR)

Card 2/2

S/032/60/026/04/13/046
B010/B006

AUTHORS: Mamedov, K. P., Geller, I. Kh., Mekhtiyev, K. M.

TITLE: X-Ray Diffractometric Determination²¹ of the Thickness of Thin Coats²¹ on Metals

PERIODICAL: Zavodskaya laboratoriya, 1960, Vol. 26, No. 4, pp. 445 - 446

TEXT: The method suggested by V. S. Kogan and B. Ya. Pines (Ref. 1) is inadequate for measuring the thickness of coats applied to solid metallic foundations. In such cases, the method developed by L. S. Palatnik (Ref. 2) can be used. It is based on a comparison of the intensity of two Debye lines reflected from the foundation and the coat. The coat, however, must be crystalline. The authors developed a method applicable for both crystalline and amorphous coats on metals. The intensity of a particular interference from the surface of the foundation itself and the part of the foundation covered with the coat is determined. In this case, the change in intensity is solely caused by the weakening of the X-ray in the coat. The method described was used to determine the thickness of thin cadmium- and bismuth coats on aluminum disks of selenium rectifiers. A URS-50I diffractometer was used, but any other apparatus allowing

Card 1/2

SOV/ 70-4-4-29/34
The Anisotropy of the Electron Density Distribution of Atoms in
Crystals of the Diamond Type

the atoms and for Si a more blurred distribution of
 < 0.47 el. In C, it has a radius of 0.12 \AA and in
Si $\sim 0.3 \text{ \AA}$. f-curves for Si and C atoms are given with
curves for the intermediate charges.
There are 3 figures, 1 table and 2 Soviet references.

ASSOCIATION: Institut fiziki i matematiki AN AzerbSSR
(Institute of Physics and Mathematics, Ac.Sc. Azerbaijan
SSR)

SUBMITTED: November 19, 1958

Card 2/2

AUTHOR: Mamedov, K.P.

SOV/70-4-4-29/34

TITLE: The Anisotropy of the Electron Density Distribution of Atoms in Crystals of the Diamond Type

PERIODICAL: Kristallografiya, 1959, Vol 4, Nr 4, pp 624-625 (USSR)

ABSTRACT: An anisotropic atomic scattering factor is given by:

$$f(\vec{H}) = \int_V \rho(\vec{r}) e^{2\pi i(\vec{H}\vec{r})} dV_r$$

which gives the scattering in terms of $\rho(\vec{r})$ the electron density distribution. The converse problem, given $f(\vec{H})$ to find $\rho(\vec{r})$ is of great interest. Careful measurements of the intensities of the X-ray reflexions from Si and diamond were made, the forbidden reflexions 222 and 622 being particularly covered. The latter had the intensity relative to 111 of (for 222) 1.15/214 (Si) and 1.35/108.5 (C) and (for 622): weak (Si) and 0.95/108.5 (C). This could show that the bonds are weaker in Si than in C. For C there is an apparent charge of 0.2 el. halfway between

Card1/2

An X-Ray Chamber for Accurate Angular Measurements

32-3-35/52

ASSOCIATION: Institute for Physics and Mathematics AS of the Azerbaijan SSR
(Institut fiziki i matematiki Akademii nauk Azerbaydzhanskoy SSR)

AVAILABLE: Library of Congress

1. Metallic monocrystals-Measurement
2. X-ray chambers-Applications

Card 2/2

AUTHORS: Mamedov, K.P., Kerimbekov, A.V. 32-3-35/52

TITLE: An X-Ray Chamber for Accurate Angular Measurements
(Rentgenovskaya kamera s tochnymi uglovymi izmereniyami)

PERIODICAL: Zavodskaya Laboratoriya, 1958, Vol. 24, Nr 3, pp. 353-353 (USSR)

ABSTRACT: A measuring table was constructed which makes it possible to determine the mosaic-like nature of metallic monocrystals by measuring the angle of rotation of the crystal surface with an accuracy of 5'. In principle, this is a chamber such as was developed by Laue with a detachable goniometric head, which is fastened to the table. A contact indicator rotates on a chrome-nickel wire round a scale graduated with an accuracy of up to 1°, and measurements are recorded by means of a zero-galvanometer. The best results were obtained by means of an annealed chrome-nickel wire with a diameter of 0.4 mm. The scale was graduated optically by means of a mirror. Various parts of the wire were tested in the course of graduation. There is 1 figure.

Card 1/2

MAMEDOV, K.P.

Radiographic investigation of some liquid hydrocarbons. Trudy Inst.
fiz. i mat. AN Azerb. SSR. 9:115-123 '58. (MIRA 12:2)
(Hydrocarbons) (X rays)

SOV/137-59-4-8859

Röntgenographic Investigations Into Changes of Residual Stresses in Low-Carbon Steel,
Depending on the Rolling Speed

roentgenograms were subjected to microphotometric evaluation on a Zeiss microphoto-
meter. It was established that K α doublet lines fused under various conditions of
rolling. Calculations of residual stresses carried out by different methods and
based on microphotometric data were used to establish optimum conditions of pipe
rolling.

V.G.

Card 2/2

SOV/137-59-4-8859

Translation from: Referativnyy zhurnal, Metallurgiya, 1959, Nr 4, pp 214 - 215 (USSR)

AUTHORS: Aliyev, N.A., Mamedov, K.P., Grishkan, A.Z.

TITLE: Roentgenographic Investigations Into Changes of Residual Stresses in Low-Carbon Steel, Depending on the Rolling Speed

PERIODICAL: Tr. In-ta fiz. i matem. AS AzerbSSR, 1958, Vol 9, pp 70 - 76 (Azerb. résumé)

ABSTRACT: The authors present a brief review on the problem of applying X-ray analysis to investigate residual stresses; they also analyzed methods of interpreting microphotograms and described roentgenographic investigations of residual stresses arising under various conditions of rolling in steel pipes containing 0.05 - 0.15% C, 0.15% Cr, 0.3% Ni. Billets from one smelt having equal dimensions were piled onto a bar; then the pipe was rolled and the structure, physical and mechanical properties of individual sections were examined. Roentgenographic investigations were made by using the method of reverse exposure and with the use of a tube with a Fe-anticathode, 35 kv voltage, 12 ma current and exposure for 10 hours; (220) lines were focused. The surface layer of the billets was etched-off with NH_4OH solution. The

Card 1/2

MAMEDOV, K.P.; KERIMBEKOV, A.V.

Method for obtaining roentgenograms of liquids. Dokl. AN Azerb. SSR
13 no.1:7-12 '57. (MLRA 10:4)

1. Institut fiziki i matematiki AN Azerbaydzhanskoy SSR. Predstavleno
akademikom AN Azerbaydzhanskoy SSR Z. I. Khalilevym.
(X rays) (Liquids)

MANEDOV, K.P.; KERIMBEKOV, A.V.

X-ray cameras with precise angle measurements. Dokl. AN Azerb.SSR,
12 no.11:793-797 '56. (MLRA 10:3)

1. Institut fiziki matematiki Akademii nauk Azervaydzhanskoy SSR.
Predstavleno akademkom AN Azerbaydzhanskoy SSR Z.I.Khalilovym.
(X rays--Apparatus and supplies)

ILLEGIBLE

ILLEGIBLE

ILLEGIBLE

ABDULLAYEV, G.; ZEYNALOV, A.; MAMEDOV, K.

Effect of X rays on perforated and electron transition. Izv. AN
Azerb. SSR no. 11:61-67 N' 54 (MLRA 8:11)
(Semiconductors)

MAMEDOV, E. P.

SKRYSHEVSKIY, A.F.; MAMEDOV, K.P.

Radiographic analysis of the molecular structure of liquid
toluene ($C_6H_5CH_3$). Sbor. nauch. rab. Lab. metallofiz. no. 5:
21-29 '54. (MIRA 8:9)

1. Laboratoriya metallofiziki Akademii nauk USSR i Institut
fiziki i matematiki Akademii nauk Azerb. SSR.
(Toluene) (Molecules)

Y. K. Kozlovskii and A. A. Aizer, *Tekhn. Fiz.*
1970, No. 1, 100-101; *Engng. Phys. J.*, 1970, No. 1, 100-101.
2. E. A. Gerasimov, *Zh. tekh. fiz.*, 1951, No. 2, 187.
3. H. K. Hall, *CACTH*, and *CACTH*. The radio-

USSR/Nuclear Physics - Crystallography Sep 51

"Anisotropy of Atomic Scattering Factor of X-Rays in Crystals of Aluminum and of Diamond," S. T. Konobeyevskiy, K. P. Mamedov, Moscow State U

"Zhur Eksper i Teoret Fiz" Vol XXI, No 2, pp

953-963

Authors show that a comparison of some diffractive maxima of crystal is sufficient for detn of atomic form in cryst pattern. In Al atoms a rarefaction of electron cloud was found along octahedron and a condensation along cube. In diamond "forbidden" interferences 222 and 622 were found and 420 and

LC

193789

USSR/Nuclear Physics - Crystallography Sep 51
(Contd)

422 interferences were absent. This indicates that electron structure of diamond is similar to that of cristobalite. Submitted 2 Oct 50.

LC

193789

MAMEDOV, K. P.

PA 193789

MAMEDOV, K. P.

"Anisotropy of the Atomic Factor in Cubic Crystals." Thesis for degree of Cand. Physico-Mathematical Sci. Sub 28 Jun 50 Moscow Order of Lenin State U imeni M. V. Lomonosov

Summary 71, 4 Sep 52, Dissertations Presented for Degrees in Science and Engineering in Moscow in 1950. From Vechernyaya Moskva, Jan-Dec 1950.

SMIRNOV, L.N., glav. red.; KHANOV, S., red.; KALUGIN, P.I., red.;
MASHRYKOV, K.K., red.; MAMEDOV, Kh.M., red.; TOPOV, G.I.,
red.; ROZIYEVA, T.R., red.; MAYOROVA, Yu.M., red.izd-va;
IVONT'YEVA, G.A., tekhn. red.

[Problems of the geology of Turkmenia] Voprosy geologii
Turkmenii. Ashkhabad, Izd-vo AN Turkmenskoi SSR, 1963.
146 p. (MIRA 16:10)

1. Akademiya nauk Turkmenskoy SSR, Ashkhabad. Institut
geologii.
(Turkmenistan--Geology)

COUNTRY : USSR
CATEGORY : Cultivated Plants. Potatoes. Vegetables.
Cucurbits.
ABS. JOUR.: Ref Zhur-Biologiya, No. 5, 1959, No. 20312
Author : Mamadov, Kh.M.
INST. :
TITLE : Potato Irrigation in the Kopet-Dage Zone

ORIG. PUB.: S. Kh. Turkmenistana, 1958, No.3, 53-55
ABSTRACT : No abstract

CARD : 1/1

Country : USSR M
 Category : CULTIVATED PLANTS. POTATOES. Vegetables. Cucurbits.
 Abs. Jour. : REF ZHUR-BIOL., 21, 1955, NO-9598 5
 Author : Mamedov, Kh. M.
 Institut. : Turkmen Agric. Inst.
 Title : Irrigation for Potatoes.

Orig. Pub. : Tr. Turm. / sic 7 s.-kh. in-ta, 1957, 9, 67-75

Abstract : The optimum irrigation for early (February-March) potato plantings have been determined through experiments made in 1955 and 1956 on the fields of Andreyev Ashkhabadskiy Kolkhoz. Deformed tuber growth sharply increased with insufficient moisture in the soil. Irrigation every 6-8 days is recommended during the period of tuber formation and ripening. Vernalized Korenevskiy variety tubers were used for the plantings. The bibliography contains 10 titles.--G.N. Chernov

Card: 1/1

ACC NR: AP6034757

the method of least squares and expressed by a formula for comparison with a similar formula evolved in tests with an electrolyte $\text{ZnCl}_2 + \text{KCl} + \text{NaCl}$, which however, proved more subject to error than the $\text{LiCl} + \text{KCl}$.² Standard thermodynamic properties were also worked out for 298C and with findings by other scientists. The authors are grateful to L. Ya. Krol' and L. P. Aleksandrova for providing gallium arsenide specimens. Orig. art. has: 6 formulas, 1 table, and 1 figure.

SUB CODE: 11/ SUBM DATE: 18Feb66/ ORIG REF: 008/ OTH REF: 012
09/

Card 2/2

ACC NR: AP6034757

SOURCE CODE: UR/0020/66/170/005/1110/1112

AUTHOR: Abbasov, A. S.; Mamedov, K. N.; Nikol'skaya, A. V.; Gerasimov, Ya. I.
(Corresponding member AN SSSR); Vasil'yev, V. P.

ORG: Physics Institute, Academy of Sciences AzerbSSR (Institut fiziki Akademii nauk AzerbSSR); Moscow State University im. M. V. Lomonosov (Moskovskiy gosudarstvennyy universitet)

TITLE: Thermodynamic properties of gallium arsenide investigated by the electro-motive force procedure

SOURCE: AN SSSR. Doklady, v. 170, no. 5, 1966, 1110-1112

TOPIC TAGS: gallium arsenide, thermodynamic property, emf, electric conductivity, ~~semiconductor device~~, *semiconductor device, quantum generator*

ABSTRACT: Since GaAs is important as the active ingredient in semiconductor injection quantum generators, which convert electric current directly into high-efficiency coherent radiation, its basic thermodynamic properties were studied. A procedure is described for measuring electric conductivity through GaAs electrodes in an electrolyte of LiCl + KCl with 0.1% of GaCl₃ added, at temperatures ranging from 637 to 741C. The 99.99% pure components were pressed in 6 x 3mm tablets with tungsten wire contacts protruding. Electric conductivity and electrolyte temperatures were both registered by PPTV-1 potentiometers as the temperature rose and again as it declined in all test series, the relation being plotted on a graph. All test findings were processed by

Card 1/2 UDC: 541.1.11.115

~~MAMEDOV~~, Khalil Mamed ogy; VOROB'YEV, Eval'd 'ladimirovich; KALLINIKOV,
V.K., redaktor; KADYRLI, A.M., tekhnicheskij redaktor

[Organization, planning and anlysis of wages in the petroleum
machinery industry] Organizatsiia, planirovanie i analiz zarabotnoi
platy v neftianom mashinostroenii. Baku, Aznefteizdat, 1954. 114 p.
(Wages) (MLRA 10:1)
(Petroleum industry--Equipment and supplies)

MAMEDOV, Kh.M.; KUTRANOV, M.G.; CHILINGAROV, S.A. .

Some high-efficiency production methods at the P.Montin Machinery
Plant, Sbor.nauch.-tekh.inform.Azerb.inst.nauch.-tekh.inform.Ser.
Mashinostroi.prom. no.4:41-51 '62.

(MIRA 18:8)

MAMEDOV, Kh.M.; KURBANOV, M.

Occurrence of mercury and antimony in the western Kopet-Dag. Izv.
AN Turk. SSR. Ser. fiz.-tekhn., khim. i geol. nauk no.4:108-112 '63.
(MIRA 17:2)

1. Institut geologii AN Turkmenskoy SSR.

MAMEDOV, K.M.

Diagnostic significance of the agglutination of virus-coated
bacteria in schizophrenia. Zhur.nevr.i'psikh. 60 no.9:1176-1182
'60. (MIRA 14:1)

1. Kafedra psikiatrii (zav. - dotsent A.N. Shogan) Turkmenskogo
meditsinskogo instituta i virusologicheskaya laboratoriya (zav. -
L.M. Alkhutova) Turkmenskogo nauchno-issledovatel'skogo instituta
epidemiologii i gigiyeny (nauchnyy rukovoditel' - dotsent Ye.Ya.
Gleyberman), Ashkhabad.

(SCHIZOPHRENIA)

MAMEDOV, K.M. (Khayyami)

Mathematics of the Near and Middle East from the 9th to the
15th century [in Azerbaijani with summary in Russian]. Izv.
AN Azerb. SSR. Ser. fiz.-mat. i tekhn. nauk no.6:31-36 *60.
(MIRA 14:8)
(Mathematics, Ancient)

MAMEDOV, K.M. (Khayyami)

Some bounded matrices in l_1 [in Azerbaijani with summary in Russian]. Izv.AN Azerb.SSR.Ser.fiz.-mat.i tekhn.nauk no.5:57-59
'60. (MIRA 14:4)

(Matrices)

MAMEDOV, K.N. (Khayyami)

An asymptotic expansion based on proper functions. Izv.AN Azerb.
SSR. Ser.fiz.-mat.i tekhnauk no.1:3-9 '60. (MIRA 13:11)
(Asymptotic expansions)

ACC NR: AP7003335

$$S_{0-298.16} = 48.40 \pm 0.80 \text{ J/g atom deg,}$$

$$H_{298.16} - H_{54} = 5340 \pm 10 \text{ J/g atom.}$$

Orig. art. has: 2 figures, 2 tables and 3 formulas.

SUB CODE: 07/ SUBM DATE: 17Nov65/ ORIG REF: 003/ OTH REF: 006

Card 2/2

ACC NR: AP7003335

SOURCE CODE: UR/0076/66/040/012/3086/3089

AUTHOR: Mamedov, K. K.; Kerimov, I. G.; Mokhtiyov, M. I.; Veliyev, M. I.

ORG: Physics Institute, Academy of Sciences, AzerbSSR (Institut fiziki Akademii nauk AzerbSSR)

TITLE: Thermodynamic studies at low temperatures

SOURCE: Zhurnal fizicheskoy khimii, v. 40, no. 12, 1966, 3086-3089

TOPIC TAGS: selenium, heat capacity, entropy, enthalpy, *heat conductivity, thermodynamic analysis*

ABSTRACT: The heat capacity c_p of amorphous selenium was measured at 147 points in the range of 56-332°K. An anomalous increase of the heat capacity around the glass transition temperature was established, and it was found that $T_g = 303.4^\circ\text{K}$. In the 56-150°K range, the results obtained obey Tarasov's equation for noninteracting chains,

$$c_1 = D_1(\Theta_1/T) = 6R(T/\Theta_1) \int_0^{\Theta_1/T} \frac{x dx}{e^x - 1} - 3R(\Theta_1/T) [\exp(\Theta_1/T) - 1]^{-1}, \quad (1)$$

where $\Theta_1 = h\nu_{\max}/k$ and $x = h\nu/kT$, with $\Theta = 364^\circ\text{K}$. It was found that the hole part of the thermal conductivity is equal to 14.53 J/g atom deg, and depends on the cooling rate of the sample. The following quantities were determined:

Card 1/2

UDC: 541.11

ACC NR: AT7003880

presented. Orig. art. has: 1 figure, 2 formulas, and 2 tables.

SUB CODE: 20/ SUBM DATE: 20Aug66/ ORIG REF: 008/ OTH REF: 004

07/

Card 2/2

ACC NR: AT7003880

(A)

SOURCE CODE: UR/0000/66/000/000/0179/0182

AUTHOR: Mamedov, K. K.; Kerimov, I. G.; Kostryukov, V. N.; Guseynov, G. D.

ORG: none

TITLE: Specific heat and entropy of indium monoselenide at low temperatures

SOURCE: AN BSSR. Institut fiziki tverdogo tela i poluprovodnikov. Khimicheskaya svyaz' v poluprovodnikakh i termodinamika (Chemical bond in semiconductors and thermodynamics). Minsk, Nauka i tekhnika, 1966, 179-182

TOPIC TAGS: indium compound, selenide, specific heat, enthalpy, entropy, low temperature research, semiconducting material, chemical bonding

ABSTRACT: In view of lack of investigations on semiconducting compounds of the III - VI type, the authors measured the specific heat of indium selenide, which was shown by earlier experiments to have certain singularities in the structure and character of its chemical bonds. The temperature dependence of the specific heat was measured with an adiabatic calorimetric setup similar to that described earlier (P. G. Strelkov et al., ZhFKh v. 28, no. 3, 459, 1954). The preparation of the sample and the measurement procedure are described in some detail. The specific heats measured for 89 values of the temperature fell all (within one per cent) on a smooth curve, thus indicating the absence of phase transitions or anomalies in the specific heat of this compound in the investigated temperature range (50 - 300K). A table of the values of the entropy and enthalpy, obtained on the basis of the measurement results, is also

Card 1/2

UDC: 541.57

MAMEDOV, K. K.

MAMEDOV, K. K. — "Investigation of the Technological Process of Laying
Down Permanent Irrigation Ditches with Plow-Type Canal Diggers."
Acad Sci Belorussian SSR. Department of Physic-mathematical
and Technical Sciences. Minsk, 1955. (Dissertation for the
Degree of Candidate in Technical Sciences)

No 1

SO: Knizhnaya Letopis', 1956, pp 102-122, 124

LC1249-46

ACCESSION NR: AP5020809

ASSOCIATION: none

SUBMITTED: 00

ENCL: 00

SUB CODE: OP, CC

NO REF SOV: 005

OTHER: 003

Card

373

0

101249-66

ACCESSION NR: AP5020809

3

pure electron transitions. The fluorescence spectrum was also a quasi-line spectrum. The frequency differences agreed with those found in pentane at 20°K by L. Pestell (J. chim. phys. et phys. biol., 58, No. 2, 204, 1961), but the whole spectrum was shifted somewhat toward the long wavelengths. There were also differences in detail between the spectrum in n-hexane at 77°K and those in other normal hydrocarbons. The phosphorescence spectrum extends from 4700 to 6500 Å; it is also a quasi-line spectrum, but the bands are somewhat broader than in the absorption and fluorescence spectra and there is only one series of vibrational frequencies. The appearance of widened single bands in place of doublets in the phosphorescence spectrum is ascribed to a change in the size of the active molecule in the excited triplet state. The three spectra show many common vibrational frequencies, and most of these agree well in both frequency and intensity with frequencies of combination scattering in liquid acenaphthene. There are strong vibrations at 1372, 1427, and 1610 cm⁻¹; these are ascribed to changes in the bonds in the naphthalene ring. "The author considers it his duty to express his sincere gratitude to V.L. Levshin for a number of valuable remarks." Orig. art. has: 2 figures and 2 tables. 44, 55

Card 2/3

LC1249-66 ENT(m)/EPF(c)/EWP(j) RM
 ACCESSION NR: AP5020809

UR/0048/65/029/008/1404/1406

AUTHOR: Mamadov, Kh. I.

TITLE: Absorption, fluorescence, and phosphorescence spectra of acenaphthene in paraffinic solvents at 77°K [Report, 13th Conference on Luminescence held in Khar'kov 25 June to 1 July 1964]

SOURCE: AN SSSR. Investiya. Seriya fizicheskaya, v. 29, no. 8, 1965, 1404-1406, and insert facing p. 1379

TOPIC TAGS: absorption spectrum, fluorescence spectrum, phosphorescence, line spectrum, solution property, vibration frequency, organic compound

ABSTRACT: The author has recorded the absorption, fluorescence, and phosphorescence spectra of acenaphthene in n-hexane at 77°K. The experimental technique has been described elsewhere by the author and V.L. Levshin (Optika i spektroskopiya, 16, 52, 1964). The phosphorescence spectra were obtained with a single-disk phosphoroscope with the disk rotating at about 4500 rpm. The absorption spectrum was a quasi-line spectrum with a doublet structure. Forty-five lines were recorded between 3200 and 2950 Å; these are tabulated and analyzed in terms of two electron transitions and a number of vibrational frequencies. Two lines at 31142 and 31189 cm⁻¹ appeared also in the fluorescence spectrum and are ascribed to

LEVSHIN, V.L.; MAMEDOV, Kh.I.

Fluorescence and phosphorescence spectra of β -methyl naphthalene in normal and isoparaffin solvents at 77°K. Vest. Mosk. un. Ser. 3: Fiz., astron. 18 no.2:30-36 Mr.-Ap '63.
(MIRA 16:6)

1. Kafedra optiki Moskovskogo gosudarstvennogo universiteta i Institut fiziki Azerbaydzhanskoy SSR.
(Naphthalene--Spectra)

L 10153-63

ACCESSION NR: A13000309

3

methylnaphthalene. Fluorescence spectrum is described and compared to the beta-compound spectrum and both phosphorescence spectra are characterized and analyzed. It was found that the fluorescence and phosphorescence spectra of the methylnaphthalene in the same solvent differ. Thus a solvent suitable for bringing out fluorescence line spectra, may be unsuitable for development of phosphorescence line structure. Comparison of the alpha and beta spectra shows that shift of the substituent in the naphthalene chain from the alpha to the beta position radically alters the line structure of the fluorescence spectrum but has little effect on the phosphorescence. Isoparaffins are suitable solvents for bringing out fluorescence lines, which are often useful and significant for analysis of petroleum and hydrocarbon mixtures. "The authors express their gratitude to Ye. S. Pokrovskaya for making available the pure compounds for investigation." Orig. art. has: 1 equation, 2 figures, and 1 table.

ASSOCIATION: fizicheskii fakul'tet Moskovskogo gos. universiteta im. M. V. Lomonosova (Physics Dept., Moscow State University); Institut fiziki Akademii nauk AzerbSSR (Institute of Physics, Academy of Sciences, Azerbaidzhan SSR)

SUBMITTED: 00
SUB CODE: PH, CH
Card 2/274/40

DATE ACQ: 12Jun63
NR REF SOV: 008

ENCL: 00
OTHER: 001

10/63-63
RM/MY/M

BPT(o)/EWT(m)/BDS--ASD--Pr-4--

ACCESSION NR: AP3000309

8/0048/63/027/005/0606/0608

AUTHOR: Levashin, V. L.; Mamedov, Kh. I.

62
59

TITLE: Fluorescence and phosphorescence spectra of alpha- and beta-methylnaphthalenes in normal isoparaffinic solvents at 77°K [Reports: Eleventh Conference on Luminescence held in Minsk 10-15 Sept. 1962]

SOURCE: Izvestiya AN SSR. Seriya fizicheskaya, v.27 no. 5, 1963, 606-608

TOPIC TAGS: fluorescence, phosphorescence, methylnaphthalenes

ABSTRACT: The present work, a continuation of a series of investigations of the fluorescence and phosphorescence spectra of individual aromatic and other hydrocarbons and narrow petroleum fractions in frozen isoparaffinic solutions, was concerned with alpha- and beta-methylnaphthalenes. The compounds were obtained from the Institute of Petrochemical Synthesis of the SSR Academy of Sciences. The solvents were n-hexane and 2,2,4-isooctane. The measurement procedure and the fluorescence spectrum of the beta compound have been described in Vestnik Mosk. un-ta. No. 2, 30, 1960. In the present report the alpha-

Card 1/2

LEVSHIN, V.L.; MAMEDOV, Kh.I.

Fluorescence and absorption spectra of stilbene in octane at
low temperatures. Opt.i spektr. 12 no.5:593-598 My '62.
(MIRA 15:5)

(Stilbene--Spectra) (Octane) (Fluorescence)

Luminescence Spectra of High-Molecular Petroleum Hydro- SOV/48-23-1-28/36
carbons

of methyl chrysene. This comparison shows that samples 1 and 2 have chrysene structure. A comparison of sample 4 with 2,9-dimethyl-3,4-benzophenanthrene showed convergence of the two absorption curves. Herefrom it follows for sample 4 that on the benzophenanthrene ring it contains substituted groups of atoms. After careful chromatographic separation investigation of the luminescence- and absorption spectra can thus give information concerning the complicated aromatic compounds of the heavy oil fraction. There are 3 figures, 1 table, and 7 references, 2 of which are Soviet.

Card 2/2

24(7)

AUTHOR:

Mamedov, Kh. I.

SOV/48-23-1-28/36

TITLE:

Luminescence Spectra of High-Molecular Petroleum Hydrocarbons (Spektry lyuminestsentsii vysokomolekulyarnykh uglevodorodov nefi)

PERIODICAL:

Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1959, Vol 23, Nr 1, pp 126 - 130 (USSR)

ABSTRACT:

For the purpose of determining the nature of the luminescent substances of the heavy oil fraction of petroleum a combined investigation of luminescence- and absorption spectra was carried out. The substances investigated, the properties of which are given by a table, were placed at the author's disposal by L. D. Melikadze. They consisted of four crystalline samples separated from the heavy oil fraction of Moric mineral oil by the researchers of the Institut khimii i fiziki (Institute of Chemistry, A.S. Griginskaya SSR). The absorption-, fluorescence- and phosphorescence spectra of the crystals and solutions of individual samples are shown by figures. The maxima of each of the bands are given in this paper. For samples 1 and 2 a comparative recording was, in addition, made

Card 1/2

SOV/62-59-9-9/40
Fluorescence Spectra of Aromatic Hydrocarbons of the Diphenyl Series and Their
Oxygen- and Sulfur Containing Analogs

Lomonosov, Physics Department)
Institut nefti Akademii nauk SSSR (Petroleum Institute of the
Academy of Sciences, USSR)

SUBMITTED: December 20, 1957

Card 3/3

SOV/62-59-9-9/40
Fluorescence Spectra of Aromatic Hydrocarbons of the Diphenyl Series and Their
Oxygen- and Sulfur Containing Analogs

compounds investigated. The fluorescence spectra of the compounds solved in isooctane were recorded at room temperature and at the temperature of liquid nitrogen. The spectra were examined with a quartz spectrograph of the ISP-66-type. The synthesis of the substances investigated is described. The spectra of the individual compounds are represented on figures 1-8. The influence of the elongation of the aliphatic bridge makes itself felt by the strong splitting up of the spectral bands. The spectrum is markedly more intense at low temperatures and may be used for analyzing the substances. The luminiscence spectrum changes considerably when an oxygen- or sulfur atom is introduced. At strongly marked π -electron bonds between the two benzene rings, the spectrum is shifted toward the longer-wave range at low temperatures as compared to spectra at room temperature. There are 8 figures, 1 table, and 7 references, 4 of which are Soviet.

ASSOCIATION:
Card 2/3

Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova
fizicheskii fakul'tet (Moscow State University imeni M. V.

5(4)

SOV/62-59-9-9/40

AUTHORS:

Levshin, V. L., Mamedov, Kh. I., Sergiyenko, S. R.,
Pustil'nikova, S. D.

TITLE:

Fluorescence Spectra of Aromatic Hydrocarbons of the Diphenyl Series and Their Oxygen- and Sulfur Containing Analogs

PERIODICAL:

Izvestiya Akademii nauk SSSR. Otdeleniye khimicheskikh nauk, 1959, Nr 9, pp 1571-1578 (USSR)

ABSTRACT:

Petroleum fractions of high molecular weight can be analyzed with fluorescence spectra, but the spectra of the individual components of the fractions are not well enough known, so that there is a lack of comparative information to interpret the spectra. It is the aim of this paper to carry out further investigations in this field. The authors investigated the spectra of the hydrocarbons of the homologous series of biphenyls starting with diphenyl itself. The further compounds extend the aliphatic chain, introduced between the benzene rings, to pentane. A type of compounds was also investigated in which one CH₂-group of the aliphatic chain is replaced by oxygen or sulfur. The table shows structure and properties of the nine

Card 1/3

MAMEDOV, Kh.I.

Investigation of the luminescence spectra of the lubricating oil
fractions of petroleum. Izv.AN Azerb.SSR,Ser.Fiz-tekhn. i khim.nauk.
no.1:49-63 '58. (MIRA 12:3)
(Petroleum) (Luminescence--Spectra)

MAMEDOV, Kh.I., Cand Phys Sci -- (diss) "Luminescent-spectro-
graphic method of study of petroleum fractions." Mos, 1958
14 pp (Mos Order of Lenin and Order of Labor Red Banner State
Univ in M.V. Lomonosov. Physics Faculty) 150 copies
(KL, 32-58, 106)

Analysis of Aromatic Fractions of Petroleum by Phosphorescence Spectra. 51-6-6/25

There are 4 figures, 1 table and 4 references, of which 3 are Russian and 1 English.

ASSOCIATION: Physics Department, Moscow State University.
(Fizicheskiy fakul'tet Moskovskogo gosudarstvennogo universiteta.)

SUBMITTED: February 6, 1957.

AVAILABLE: Library of Congress.

Card 4/4

51-6-6/25

Analysis of Aromatic Fractions of Petroleum by Phosphorescence Spectra.

trimethylnaphthalenes. Fraction VII is practically identical with fraction VI, and is therefore not shown in the figure. Fraction VIII (Fig.4, curve 1) contains trimethylnaphthalenes and traces of dimethylnaphthalenes. Fraction IX (Fig.4, curve 2) shows presence of tetramethylnaphthalenes. Fraction X, which is a crystalline yellow solid, has a phosphorescence spectrum different from the spectra of all the other fractions. Tetramethylnaphthalenes are the main components of fraction X (empirical formula $C_{14}H_{16}$).

Spectra of all the fractions taken together indicate that with increase of boiling temperature of the fraction, the beginning of the phosphorescence spectrum is shifted towards longer wavelengths. This is due to increasing the number of CH_3 radicals attached to the naphthalene ring. The author suggests that phosphorescence analysis is particularly useful when the components of the mixture studied have very similar absorption spectra. The author thanks V.L. Ievshin who directed this work.

Card 3/4

51-6-6/25

Analysis of Aromatic Fractions of Petroleum by Phosphorescence Spectra.

and a single-disk phosphoroscope (the disk was rotated at 2000 rev./min.). The samples were illuminated by unfiltered light of a mercury lamp. Fig.1 gives the spectra of solutions of fraction I (curve 1), and 1-methylnaphthalene (curve 2) in iso-octane. Comparison of the two curves in Fig.1 suggests that fraction I consists mainly of 1-methylnaphthalene. Other bands in the fraction I spectrum are due to 2-methylnaphthalene. Fig.2 shows the spectra of fractions II (curve 1) and IV (curve 2). The author concludes that fraction II contains mainly dialkylnaphthalenes and trialkylnaphthalenes. Fraction III (not shown in Fig.2) is identical in composition with fraction II. It is concluded that fraction IV consists of dimethylnaphthalenes and trimethylnaphthalenes. Fraction V (Fig.3, curve 1) contains trimethylnaphthalenes with some dimethylnaphthalenes. Fraction V may also contain traces of tetramethylnaphthalenes. Fraction VI (Fig.3, curve 2) contains

Card 2/4

MAMEDOV, KH. I.

AUTHOR: Mamedov, Kh. I.

51-6-6/25

TITLE: Analysis of Aromatic Fractions of Petroleum by Phosphorescence Spectra. (Analiz aromaticeskikh fraktsiy kerosina po spektram fosforestsentsii.)

PERIODICAL: Optika i Spektroskopiya, 1957, Vol. III, Nr. 6, pp. 587-591. (USSR)

ABSTRACT: In a recent paper (Ref.4) the author reported results of fluorescence spectra of aromatic fractions of petroleum. The present paper deals with phosphorescence (in the 450-600 mμ range) of petroleum fractions separated out in narrow temperature ranges (25°C). These spectra can be used for chemical analysis of petroleum. The samples of aromatic fractions of petroleum were obtained from the Petroleum Institute of the Academy of Sciences of the USSR. These fractions were prepared and their properties determined (see Table 1) by Candidate of Chemical Sciences S.S. Nifontova. The phosphorescence spectra were recorded photoelectrically at the liquid nitrogen temperature (77° K) using a spectrograph ИСТ-51

Card 1/4

MAMEDOV, Kh. I.

FD 430

USSR/Physics - Luminescence of oil

Card 1/1 Pub. 147-16/16

Author : Mamedov, Kh. I.

Title : Problem of the luminescing components of petroleum

Periodical : Zhur. eksp. i teor. fiz. 26, 647-648, May 1954

Abstract : A letter of the editors. Studies the ultraviolet luminescence of petroleum from Azerbaydzhan. Presents microphotograms of the luminescence spectra of oil solutions in ether for various concentrations. Notes that a similar work has been done by M. N. Rakhmatov, according to his author's abstract of his dissertation "Development of a Procedure for the Luminescence Analysis of the Petroleum Products of Uzbekistan." States that the present work was carried out in the luminescence laboratory imeni S. I. Vavilov of the Physics Institute imeni P. N. Lebedev, Acad Sci USSR. Thanks Prof. V. L. Levshin for allowing the investigation to be conducted in his laboratory.

Institution : Institute of Physics and Mathematics, Academy of Sciences
Azerbaydzhan SSR

Submitted : February 3, 1954

USOV, Ya.A.; KOROBEYNIKOV, M.I.; MAMEDOV, K.I.

Sanitary protection of the frontiers in the territory of the
Uzbek S.S.R. Zhur.mikrobiol., epid.i immun. 32 no.12:30-33 D '61.
(MIRA 15:11)

1. Iz Uzbekskoy respublikanskoy protivochumnoy stantsii, Tashkent,
Sanitarno-karantinnoy punkta Tashkentskogo aeroporta i Surgan-
Dar'inskoy oblastnoy sanitarno-epidemiologicheskoy stantsii,
Termez.

(UZBEKISTAN--QUARANTINE)

GUSEYN-ZADE, K.M.; MAMEDOV, K.A.

Dynamics of cutaneous leishmaniasis incidence in Kirovabad in
32 years. Med. paraz. i paraz. bol. 34 no.2:234 Mr-Apr '65.
(MIRA 18:11)

1. Kirovabadskiy kozhno-venerologicheskiy dispanser Ministerstva
zdravookhraneniya Azerbaydzhanskoy SSR.

ISMAIL-ZADE, I.M., prof. [deceased]; GUSEYN-ZADE, K.M., kand. med. nauk;
MAMEDOV, K.A.

Result of 12-year control of cutaneous leishmaniasis in an
epidemic focus. Vest. dermat. i ven. 37 no.4:61-64 Ap '63.
(MIRA 17:5)

MAMEDOV, K.A.; GUSEYNZADE, K.M.

Organization of control measures for eliminating Borovskii's disease
in an endemic focus. Azerb. med. zhur. no. 2:49-51 F '61.

(MIRA 14:2)

(KIROVABAD--DELHI BOIL)

MAMEDOV, K.

Inheritance of economically valuable qualities in second-generation cotton hybrids produced by supplementary heterogenous pollination. Izv. AN Turk. SSR. Ser. biol. nauk no.4:7-12 '64. (MIRA 17:11)

1. Institut botaniki AN Tukmenskoy SSR.

MAMEDOV, Khurshud; MUSTAFAYEVA, S., red.; MIRKISHIYEVA, S., tekhn.red.

[Forty years of the Nakhichevan A.S.S.R.] Nakhichevanskaia
ASSR za 40 let. Baku, Azerbaidzhanskoe gos.izd-vo, 1960.
55 p. (MIRA 13:12)

1. Pervyy sekretar' Nakhichevanskogo obkoma Kommunisticheskoy
partii Azerbaydzhana (for Mamedov).
(Nakhichevan A.S.S.R.--Economic conditions)

MAMEDOV, K.

Limited pollination and its effect on the formation of
characters and hybrids of cotton. Izv. AN Turk. SSR.
Ser.biol.nauk no.5:17-21 '65.

(MIRA 18:11)

1. Institut botaniki AN Turkmenskoy SSR.

MAMEDOV, K.

Characteristics of the first generation hybrids obtained by various methods of additional pollination with foreign pollen. Izv. AN Turk. SSR. Ser. biol. nauk no.1:9-15 '64.

(MIRA 17:9)

1. Institut botaniki AN Turkmenskoy SSR.

MAMEDOV, I.S. (Moskva)

Stressed state of an annular membrane under heavy deformation conditions. Inzh. zhur. 5 no.5:927-935 '65. (MIRA 18:10)

Large deflections of a circular ... S/258/63/003/001/020/022
E201/E141

Both cases are illustrated by numerical examples and graphs showing the change in shape of the membrane with load. There are 5 figures.

ASSOCIATION: Institut mekhaniki AN SSSR
(Institute of Mechanics, AS USSR)

SUBMITTED: February 13, 1962

Card 3/3

large deflections of a circular ...

S/258/63/003/001/020/022
E201/E141

$$\varepsilon_1 = \ln \frac{d}{d_0 \cos \phi}, \quad \varepsilon_2 = \ln \frac{x}{S}, \quad \varepsilon_3 = \ln h \quad (1.7)$$

and the equilibrium equation is:

$$\frac{d}{dx} (xhp_1 \sin \phi) = \frac{qR}{H_1 E_1} x, \quad \frac{d}{dx} (xhp_1) = \frac{E_2}{E_1} p_2 h. \quad (1.8)$$

If $q = \text{const}$ then $\sin \phi = Q(x/hp_1)$ where $Q = qR/2H_1 E_1$.
Two particular cases are discussed.

1) $E_2 = \infty$ (E - Young's modulus). Then the slope equation is:

$$\frac{dy}{dh} = -\frac{\alpha}{Q} \left\{ \left[1 - (1 + \alpha) h^{2\alpha} \right]' \ln h + 1 - h^{2\alpha} \right\} \frac{1}{h^\alpha} \quad (2.3)$$

where $\alpha = 1/\nu$ (ν - Poisson's ratio).

$$2) \quad E_2 = \infty \text{ and } q = q_0 = K Ry \quad (2.2)$$

where q_0 and K are variable parameters. (3.1)

Card 2/3

S/258/63/003/001/020/022
E201/E141

AUTHOR: Mamadov, I.S. (Moscow)

TITLE: Large deflections of a circular orthotropic membrane

PERIODICAL: Inzhenernyy zhurnal, v.3, no.1, 1963, 174-179

TEXT: The paper discusses the deformation of a membrane under a non-uniformly distributed load. Let $Y\Theta X$ be the coordinates of a membrane; R - its radius; H_1 and H - thickness before and after deformation; q - intensity of distributed load; ψ - angle between a tangent to the deformation in the axial plane and the axis X ; $x = r$ before deformation; $p_1 = \sigma_1/E_1$, $p_2 = \sigma_2/E_2$, $h = H/H_1$; σ_1 and σ_2 - radial and tangential stresses. The material obeys Hooke's law. The principal strains are:

$$\epsilon_1 = \frac{1}{h} \frac{1}{\cos \psi} - 1; \quad \epsilon_2 = \frac{x}{h} - 1; \quad \epsilon_3 = \frac{H}{H_1} - 1; \quad (1.3)$$

$$\text{where } x = X/R, \quad y = Y/R, \quad \xi = r/R. \quad (1.2)$$

The logarithmic strains ($\epsilon = \ln(1 + e)$) are:

Card 1/3

MAMEDOV, Shakhhal; NIZKER, I.L.; ISMATLZADE, I.G.; MAMEDOV, F.A.; MAMEDOV, I.M.

Synthesis and study of Raman spectra of alicyclic α -chloro ethers.
Dokl. AN Azerb. SSR 19 no.1:23-26 '63. (MIWA 16:4)

1. Institut neftekhimicheskikh protsessov AN AzSSR. Predstavleno
akademikom AN AzSSR M.A.Dalinyam.
(Cyclic compounds—Spectra)

ASKEROV, A.K.; KAMYSHEVA, T.P.; SADYKHZADE, S.I.; ISMATILZADE, I.G.;
MAMEDOV, F.A.; MAMEDOV, I.M.

Order of orientation in the reaction of alkylation of xylene
isomers with ethylene and propylene in the presence of $AlCl_3$.
Azerb. khim. zhur. no.3:44-48 '65. (MIRA 19:1)

1. Institut neftekhimicheskikh protsessov AN AzerSSR.